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| 10/815,354 | 03/31/2004 | Patrick Chiu | FXPL-1094US0 | 8294 |

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FLIESLER MEYER LLP
650 CALIFORNIA STREET
14TH FLOOR
SAN FRANCISCO, CA 94108

| EXAMINER | |
|---|---|
| PARK, EDWARD | |
| ART UNIT | PAPER NUMBER |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/815,354 | CHIU ET AL. | |
| | Examiner | Art Unit | |
| | EDWARD PARK | 2624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on *4/7/08*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/7/08 has been entered.

### *Claim Rejections - 35 USC § 112*

2. In response to applicant's amendment of claim 20, the previous claim rejection is withdrawn.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 10, 12** are rejected under 35 U.S.C. 102(b) as being anticipated by Jun et al (US 2001/0020981 A1).

Regarding **claim 1**, Jun teaches a method for generating a highly condensed visual summary of video regions, comprising:

determining a dominant group in each of a plurality of video segments (Jun: paragraphs [0023]-[0024]);

determining a key frame in each of the video segments (Jun: paragraphs: [0023]-[0024]);

defining a germ associated with each dominant group in each of the video segments (Jun: paragraph [0051], region of interest is read as "a germ");

laying out the germs on a canvas, each germ associated with a support; and filling in the space of the canvas between the germs (Jun: figures: 13a, 13b, 17, paragraphs [0074]-[0076], Examiner notes that it can be seen in figure 13a, for example, that the germ is a region of interest, and the claim limitation filling in the space of the canvas between the germs only brings in the limitation of occupying the canvas with any additional image that is not part of the region of interest, which can be seen in figure 13a in the Fsk. The region of interest "germ" can be the head of the person; and any other background imagery that is not part of the region of interest which is seen in the figure will meet the limitation of the claim).

Regarding **claim 10**, Jun teaches a method for generating a highly condensed visual summary of video regions, comprising:

determining a germ in each of a plurality of images, the germ containing a region of interest (Jun: paragraph [0051], region of interest is read as "a germ");

laying out the germs on a canvas, each germ associated with a support; and filling in the space of the canvas between the germs with one or more parts of the image from the support (Jun: figures: 13a, 13b, 17, paragraphs [0074]-[0076], Examiner notes that it can be seen in

figure 13a, for example, that the germ is a region of interest, and the claim limitation filling in the space of the canvas between the germs only brings in the limitation of occupying the canvas with any additional image that is not part of the region of interest, which can be seen in figure 13a in the Fsk. The region of interest "germ" can be the head of the person; and any other background imagery that is not part of the region of interest which is seen in the figure will meet the limitation of the claim).

Regarding **claim 12**, Jun teaches receiving user input, the user input associated with a part of an image (Jun: paragraph [0077]).

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 2-6, 13-15, 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al (US 2001/0020981 A1) in view of Uchihashi (ACM Multimedia: "Video Manga: Generating Semantically Meaningful Video Summaries").

Regarding **claim 2**, Jun discloses all elements as mentioned above in claim 1. Jun does not teach determining a group within each of the plurality of video segments having the largest volume.

Uchihashi teaches determining a group within each of the plurality of video segments having the largest 3-D volume (Uchihashi: section 4.2, length of the segment is scored).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to determine a group having the largest volume as taught by Uchihashi, in order to "calculate an importance score for each segment based on its rarity and duration" since "a segment is deemed less important if it is short or very similar to other segments" (Uchihashi: section 4.2).

Regarding **claims 3, 4, and 20**, Jun discloses all elements as mentioned above in claim 1. Jun does not teach defining a two dimensional shape that encompasses the projection of the dominant group onto the key frame; wherein the two dimensional shape is a rectangle; and using an algorithm to determine a region of interest of an image.

Uchihashi teaches defining a two dimensional shape that encompasses the projection of the dominant group onto the key frame (Uchihashi: figure 2; section 4.4) and wherein the two dimensional shape is a rectangle (Uchihashi: figure 2; section 4.4).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to define a two dimensional shape that is a rectangle as taught by Uchihashi, in order to "form a pictorial abstract of the video sequence" where a "sequence of frames …. fills space efficiently and represents the original video sequence well" (Uchihashi: section 4.4).

Uchihashi further teaches using an algorithm to determine a region of interest of an image (Uchihashi: figure 4.2).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun with Uchihashi combination as mentioned above to determine a region of interest of an image as taught by Uchihashi, "to select appropriate keyframes for a compact pictorial summary" (Uchihashi: section 4.2).

Regarding **claims 5 and 6**, Jun with Uchihashi discloses all elements as mentioned above in claim 3. Jun with Uchihashi as mentioned in claim 3, does not teach determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas and placing the germs in rows, wherein each row has a height according to the longest germ in the particular row.

Uchihashi further teaches determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas (Uchihashi: section 4.3, 4.4) and placing the germs in rows, wherein each row has a height according to the longest germ in the particular row (Uchihashi: figure 2).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun with Uchihashi combination to place the germs in a row as taught by Uchihashi, to "fill space efficiently and represent the original video sequence well" (Uchihashi: section 4.2).

Regarding **claim 13**, Jun discloses all elements as mentioned above in claim 10. Jun does not disclose using an algorithm to determine the regions of interest of an image based on one or more methods selected from the group consisting of a general image analysis algorithm, a face-detection algorithm, and object detection algorithms and user input.

Uchihashi teaches using an algorithm to determine the regions of interest of an image based on one or more methods selected from the group consisting of a general image analysis algorithm (see section 4.2, segment is scored and weighted), a face-detection algorithm, and object detection algorithms and user input.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to determine the regions of interest with a general image analysis algorithm as taught by Uchihashi, "to select appropriate keyframes for a compact pictorial summary" (Uchihashi: section 4.2).

Regarding **claims 14 and 15**, Jun reference discloses all elements as mentioned above in claim 10. Jun reference as mentioned in claim 10, does not teach determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas and placing the germs in rows, wherein each row has a height according to the longest germ in the particular row.

Uchihashi further teaches determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas (Uchihashi: section 4.3, 4.4) and placing the germs in rows, wherein each row has a height according to the longest germ in the particular row (Uchihashi: figure 2).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to place the germs in a row as taught by Uchihashi, to "fill space efficiently and represent the original video sequence well" (Uchihashi: section 4.2).

7. **Claims 7-9, 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al (US 2001/0020981 A1) in view of Hirata (US 6,922,485 B2).

Regarding **claims 7-9,** Jun discloses all elements as mentioned above in claim 1. Jun does not teach assigning a pixel value of each point in the canvas to the same pixel value in the support associated with the germ closest to each point; wherein if the germ closest to the point does not have a support that includes the point, the point is assigned the pixel value of the closest germ with a support that includes the point; wherein the point is assigned a background value if no support includes the point.

Hirata teaches assigning a pixel value of each point in the canvas to the same pixel value in the support associated with the germ closest to each point (see col. 8, lines 62-67; col. 9, lines 1-14); wherein if the germ closest to the point does not have a support that includes the point, the point is assigned the pixel value of the closest germ with a support that includes the point (see col. 8, lines 62-67; col. 9, lines 1-14); wherein the point is assigned a background value if no support includes the point (see col. 8, lines 62-67; col. 9, lines 1-14).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to assign pixel value to a germ that is closest as taught by Hirata, to create an aesthetically/visually pleasing image to the user by removing white spaces between germs.

Regarding **claims 16-18**, Jun discloses all elements as mentioned above in claim 10. Jun does not teach assigning a pixel value of each point in the canvas to the same pixel value in the support associated with the germ closest to each point; wherein if the germ closest to the point does not have a support that includes the point, the point is assigned the pixel value of the closest germ with a support that includes the point; wherein the point is assigned a background value if no support includes the point.

Hirata teaches assigning a pixel value of each point in the canvas to the same pixel value in the support associated with the germ closest to each point (see col. 8, lines 62-67; col. 9, lines 1-14); wherein if the germ closest to the point does not have a support that includes the point, the point is assigned the pixel value of the closest germ with a support that includes the point (see col. 8, lines 62-67; col. 9, lines 1-14); wherein the point is assigned a background value if no support includes the point (see col. 8, lines 62-67; col. 9, lines 1-14).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to assign pixel value to a germ that is closest as taught by Hirata, to create an aesthetically/visually pleasing image to the user by removing white spaces between germs.

8. **Claims 11, 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al (US 2001/0020981 A1) in view of Li et al (US 7,035,435 B2).

Regarding **claim 11**, Jun discloses all elements as mentioned above in claim 10. Jun does not teach detecting a face in each of the plurality of images.

Li teaches detecting a face in each of the plurality of images (Li: col. 7, lines 33-51).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to detect a face as taught by Li, in order to determine the importance of a frame since "a human face will be more informative than, for example, a landscape frame" (Li: col. 7, lines 33-51).

Regarding **claim 19**, Jun discloses all elements as mentioned above in claim 1. Jun does not teach detecting a face in each of the plurality of images.

Li teaches detecting a face in each of the plurality of images (Li: col. 7, lines 33-51).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to detect a face as taught by Li, in order to determine the importance of a frame since "a human face will be more informative than, for example, a landscape frame" (Li: col. 7, lines 33-51).

9. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al (US 2001/0020981 A1) in view of Lin et al (US 6,307,964 B1).

Regarding **claim 21**, Jun discloses all elements as mentioned above in claim 1. Jun does not disclose using a Voronoi algorithm to determine the shape of the support to be placed on the canvas.

Lin, in the same field of endeavor, teaches using a Voronoi algorithm to determine the shape of the support to be placed on the canvas (see col. 2, lines 41-46, representing a shape of an object in an image).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to utilize a Voronoi algorithm as taught by Lin, in order increase the "effectiveness of a shape descriptor" by being "able to capture the structural information of the shape, yet be robust to noise within the boundary [to] yield the most favorable result" (see col. 2 lines 32-40).

### *Response to Arguments*

10. In regards to the applicant's general remarks on pages 7 and 8, the applicant states several statements made by the examiner. Examiner does not recall making such statements or agreements as applicant has stated. Examiner notes that the interview summary clearly states

what was discussed on record, and no conclusion or agreement was reached in any of the claims. Examiner reminds applicant of MPEP 713.04 [R-3], 37 CFR 1.2, "No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt." Furthermore, applicant's request for Supervisory Examiner Brian Werner to write a separate summary of the interview is denied since an interview summary was already mailed and was signed by Supervisory Examiner Brian Werner that is dated on 10/3/07. Examiner notes that the remarks made on pages 7 and 8 do not carry any weight since there was no agreement reached during the interview.

Applicant's arguments filed 4/7/08, in regards to **claim 1,** have been fully considered but they are not persuasive. Applicant argues that the Jun reference does not disclose the "filling in the space of the canvas between the germs" limitation of claim 1. This argument is not considered persuasive since it can be clearly seen in figure 13a and paragraphs 0074-0075 that the synthetic key frame FSK presents an image by combining key frames or key regions representing the entire content of the scene. It can be seen in figure 13a, for example, that the germ is a region of interest "germ", and the claim limitation filling in the space of the canvas between the germs only brings in the limitation of occupying the canvas with any additional image that is not part of the region of interest, which can be seen in figure 13a in the Fsk. The region of interest can be the head of the person; and any other background imagery that is not part of the region of interest which is seen in the figure will meet the limitation of the claim. Since the claim limitation only calls for filling in the space of the canvas between the germs is equivalent to having any information, whether it is background information between each region of interest. Furthermore, the new claim limitation, does not limit the scope of what the space

between the germs is being filled with. Therefore, examiner is reading the limitation of filling in the space of the canvas between the germs as being equivalent to having any support associated with a germ. This is due to the fact the support surrounds the germ, which is between two or more germs. Therefore, the limitation of this claim is met by the reference and the amendment does not, if any, further limit the scope and limitation.

In regards to **claim 10**, applicant argues that the Jun reference does not disclose "filling in the space between the germs". This argument is similar to the argument of claim 1. Examiner notes to see arguments for claim 1 since it is identical to claim 10.

In regards to **claim 12**, applicant argues that the claim is patentable due to the dependency of claim 10. This argument is not considered persuasive since the rejection of claim 10 stands and the rejection and arguments can be seen above.

In regards to **claim 2**, applicant argues that the Uchihashi reference does not teach a 3-D volume, but a 1-D volume. This argument is not considered persuasive and technologically incorrect in reference to the claim. How is volume defined in one dimension? The Uchihashi reference teaches determining the longest segment and scores the segment. Examiner notes that the applicant argues limitations that are not in claim 2, and therefore the examiner reiterates the limitations of claim 2. Claim 2 calls for "determining a group within each of the plurality of video segments having the largest 3-D volume". Basically, the claim calls for the determination of a group within a segment of video frames that has the longest running time. Applicant argues irrelevant issues that do not pertain to claim 2 and tries to bring in limitations from the specification into the claim language which is both incorrect and does not make technological sense.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., project the dominant group onto the key frame) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In regards to **claims 2-6, 13-15, 20**, applicant argues that the claim is patentable since it depends from claims 1 and 10 respectively. This argument is not persuasive since the rejection of claims 1 and 10 stand and the rejection and arguments can be seen above.

Applicant's arguments with respect to **claims 7-9, 16-18** have been considered but are moot in view of the new ground(s) of rejection.

In regards to **claims 11, 19**, applicant argues that the claim is patentable since it depends from claims 10 and 1 respectively. This argument is not persuasive since the rejection of claims 10 and 1 stand and the rejection and arguments can be seen above.

In regards to **claim 21**, applicant argues that the claim Lin reference does not disclose the contour as being part of the output. This argument is not considered persuasive since the claim limitation does not call for the applicant's limitation in the arguments. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "contours are part of the output") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, the applicant argues that the Lin's reference, Voronoi function is different from the applicant's Voronoi algorithm. This argument is not

considered persuasive since the Voronoi function is used in many different aspects in mathematics and image analysis; and in respect to the claim, again the applicant is reading in limitations from the specification into the claims, which is not proper.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD PARK whose telephone number is (571)270-1576. The examiner can normally be reached on M-F 10:30 - 20:00, (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Edward Park
Examiner
Art Unit 2624

/Edward Park/
Examiner, Art Unit 2624